Karlsruhe Institute of Technology

KIT-Campus Alpin
IMK-IFU: Atmospheric Environmental Research

Institute of Meteorology and Climate Research
Atmospheric Environmental Research (IMK-IFU)

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Five Postdoctoral or PhD researchers in quantitative Environmental Sciences

Karlsruhe Institute of Technology, Campus Alpin (IMK-IFU), Garmisch-Partenkirchen, Germany

Overview

We are seeking to appoint up to 5 quantitative Environmental Scientists as either postdoctoral researchers or PhD students. The successful applicants will contribute to a number of EU-funded research projects exploring the impacts of environmental and policy change on land use and ecosystems, including biodiversity at large spatial scales (European to global). See the Annex for further details about these projects.

The positions will be held within the Land Use & Climate Change Research Group (https://landchange.imk-ifu.kit.edu/) and/or the Global Land Ecosystem Modelling Group (https://lemg.imk-ifu.kit.edu/) of the Karlsruhe Institute of Technology (KIT), located at KIT's attractive 'Campus Alpin' in Garmisch-Partenkirchen, Germany. Specifically, we seek researchers to address the following topics:

1. The contribution of sustainable forest management to climate change mitigation, adaptation and nature conservation;
2. The nexus between biodiversity, food and timber production, climate change mitigation, water resources and health;
3. Nature-based solutions to reduce climate change risks;
4. The role of international trade and environmental policy in land use and ecosystem change.

You will contribute to the further development and application of the LandSyMM modelling framework (https://landsymm.earth/) using environmental modelling, data analysis methods and literature review. Willingness to engage with stakeholders is also expected for some of the tasks. The positions will entail contributions to project management and reporting, and some teaching.

You will be welcomed into a multi-disciplinary, highly collaborative and friendly team, well connected to national and international research networks and activities. Salaries will range from €38000 to €61000 gross per annum depending on qualifications and experience based on the Collective Agreement for the German Public Service Sector (TV-L EG13, St. 1-4). PhD students may also be funded through a stipend (studentship). The positions are available from September 2022 for 2-3 years initially with the potential for extension beyond this period.

Qualifications

You will have a PhD or Master's degree in a relevant discipline such as environmental sciences, geo-ecology, meteorology, geography, forest ecology, ecological economics, computational social sciences, mathematics and informatics. You will also have:

1) strong quantitative skills in environmental modelling and preferably computer programming experience (e.g., Fortran, C, C++, Java, Python);
2) and/or the analysis of large-scale datasets in the environmental sciences;
3) and/or experience with scenario analysis, environmental policy analysis, statistical analysis, and ecosystem assessment.

You will need to have proficiency in the English language, both spoken and in writing. Willingness to travel to interact with consortia partners is required. Further information can be obtained from Prof. Mark Rounsevell (mark.rounsevell@kit.edu) and Prof. Almut Arneth (almut.arneth@kit.edu).

Applications

Applications should be sent by email to Sylvia Kratz (sylvia.kratz@kit.edu) by **Friday 22 April 2022,** quoting the reference, *5MRAA*. Applications should be submitted within a single PDF document that includes your CV, publications list (with citations), a short (1-2 page) letter of motivation and contact details for 2 referees. The motivation letter should clearly state a) your skills and experience in quantitative environmental sciences b) whether you are applying for a postdoctoral or PhD position, and c) how your research interests relate to the topics given above and the project descriptions in the annex. Please also indicate where you heard about this job opportunity. Applications that are incomplete or do not address these criteria will not be considered.

Interviews will be held remotely between **Tuesday 3 May and Thursday 5 May 2022.**

KIT strives to achieve gender balance at all levels of employment. We therefore particularly encourage female candidates to apply for this position. With appropriate qualifications, applications from persons with handicaps are treated preferentially.

ANNEX – Brief EU project descriptions

***Co-designing Holistic Forest-based Policy Pathways for Climate Change Mitigation* (ForestPaths)**

The EU target to significantly reduce its emissions by 2030 and become climate neutral by 2050 requires new mitigation measures within all sectors. Clear policy pathways are needed that outline alternative trajectories for European forests and the forest-based sector towards a climate-neutral and resilient society and economy. ForestPaths will co-design, quantify and evaluate holistic forest-based policy pathways to optimize the contribution of forests and the forest-based sector to climate change mitigation, while considering the need to adapt forests to climate change, conserve biodiversity and sustain forest ecosystem services provisioning. ForestPaths will explore feasible, Climate & Biodiversity-Smart options across Europe, suggesting effective mitigation actions, and analysing their co-benefits and trade-offs with biodiversity and ecosystem services.

***CLImate Mitigation and Bioeconomy pathways for sustainable FORESTry* (CLIMB-FOREST)**

CLIMB-FOREST will develop alternative, sustainable pathways to mitigate climate change and conserve biodiversity in the European forest sector. This includes an evaluation of ecosystem services, the bioeconomy, and other socioeconomic factors, including the use of long-lived wood products and evaluating the barriers to change. The project will map current distributions of forests and forest management in Europe, gather data about carbon uptake, sinks and other factors impacting on climate, quantify preferences for alternative wood products and management practices, model scenarios and pathways towards environmental and climate policy goals, and evaluate adaptation to new management strategies in the European forest sector.

***The biodiversity nexus: transformative change for sustainability* (BIONEXT)**

BIONEXT will develop knowledge, tools, and guidance for mainstreaming biodiversity into policy making and provide concrete options on how to initiate, accelerate and upscale biodiversity relevant transformative change in society. It will deliver an innovative Nexus Modelling Framework that will integrate scenarios and pathways in a co-production process with stakeholders, while modelling interlinkages between biodiversity, water, food, energy, transport, climate, and health, and enabling simulation of the impacts of indirect and direct drivers on biodiversity. Plausible futures and desirable, nature-positive visions for Europe and multiple just transition pathways will be co-created in workshops and focus groups. The results will contribute to science brokerage, capacity building and networking to IPBES, policymakers, and civil society.

***Insurance for nature - nature for insurance* (NATURANCE)**

Naturance will examine the technical, financial and operational feasibility and performance of solutions that are built upon and combine disaster risk financing & investments with nature-based solutions. The project will stimulate dialogues, knowledge sharing and mutual learning across different areas of policy and practice. The ambition is to produce a comprehensive and collaborative assessment of nature-based insurance and investment solutions from societal and business perspectives. The ultimate goal is to encourage adoption of jointly elaborated principles, performance metrics and recommended approaches to analysis and design, in accordance with the EU framework for sustainable finance.